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## **Selective attention and the information environment: citizens' perceptions of political problems in the 2015 swiss federal election campaign**

Wüest, Bruno

**Abstract:** In the course of election campaigns, voters pay only selectively attention to particular aspects of political problems. Such selective attention is necessary because the costs of becoming competent on many political problems are great. Normatively, however, such selective attention is not desirable because it lowers the chance that voters will reach well-balanced and competent decisions. This contribution establishes the aspects of the four most salient problems from the 2015 Swiss federal election campaign: immigration, welfare, the economy and European integration. It further reveals that selective attention is higher among those who are interested in politics and who learn problem-specific information on salient problems, and lower among those who are well-educated, who engage in personal discussions, who use traditional media, and who learn problem-specific information on less salient problems. Finally, it concludes that selective attention should be avoided in order to strengthen the citizens' level of information on political problems.

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# Same issues, different attitudes: motivated reasoning in the Swiss federal election campaign 2015\*

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## Abstract

In election campaigns, voters first need to interpret factual information before it influences their attitudes and, ultimately, their electoral choice. This contribution establishes the interpretations prevalent for the four most important issues of the Swiss federal election campaign in 2015 – immigration, welfare, economy and European integration. To this aim, it applies a structural topic model on the open-ended answers of the Selects rolling-cross sectional survey. The causes and consequences of changes in the salience of the interpretations during the campaign are investigated using the theory of motivated reasoning. Evidence suggests that the polarization of a few interpretations is systematically linked to media coverage, perceived issue importance and party preferences.

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## Introduction

In politics, issues need interpretation in order to become effective. While the literature on framing processes provides us with a good understanding on how the political elite uses different interpretations of the issues at stake (Chong and Druckman, 2007); for Switzerland, see Hänggli and Kriesi (2010)), we know less about these processes at the individual level (but see Gaines et al., 2007). Citizens just as well need to interpret specific issues before their attitude on them influences their political preferences and, ultimately, their electoral choice. Immigration, to take the most prominent example in Switzerland, can be perceived in several ways, for instance as a refugee crisis or as a matter of integration. Obviously, the citizens' party preferences do rely on which interpretation is taken into account – left parties most likely profit from the second interpretations, and right-wing conservatives from the latter.

In this paper, not only the diversity of issue interpretations is explored, but also its causes and consequences. Attitude formation is both shaped by voters' predispositions and the political context of the electoral campaign (Leeper and Slothuus, 2014). Hence, predispositions only become politically consequential, when activated by the context and cognitively used by the voters. This study copes with a crucial element of the context of election campaign, news coverage in the mass media. Mass media have been accused to increasingly convey a polarizing, partisan discourse (Arceneaux and Johnson, 2013).

Following previous research on partisan motivated reasoning (e.g. Taber and Lodge, 2006; Gaines et al., 2007; Slothuus and de Vreese, 2010; Petersen et al., 2013; Leeper and Slothuus, 2014), it is suggested that citizens more intensely seek and more positively integrate new information if it is linked to their preferred political party. However, it is also shown that the exclusive focus on party cues is neglecting the role of substantial information issues for attitude formation (Bullock, 2011; Boudreau and MacKenzie, 2014; Colombo and Kriesi, 2016). Hence, the differences in the issue interpretations of citizens integrating substantial information should markedly increase during the electoral campaign as well.

The Swiss election study 2015 provides us with uniquely suitable data to study partisan motivated reasoning. First, issue interpretations are explored by applying a structural topic model (STM, Roberts et al. (2014)) to the open-ended answers of the most important problem questions in the rolling-cross section surveys<sup>1</sup>. In contrast to previous studies on motivated reasoning, which exclusively rely on field

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<sup>1</sup>The Selects research team has generously provided this data to the authors.

or lab experiments with a few selected issues, the full range of issues that actually was relevant in the 2015 national elections can be studied. Moreover, by linking the media usage items in the RCS survey with data from the Selects media analysis (Wüest et al., 2016), it is possible to precisely measure how much information on parties and issues every respondent collected before asked for the attitudes. Unlike experiments, the following study therefore uses a real-world environment that should not bias individual behavior on a representative pool of respondents (McDermott 2002).

## Motivated reasoning in election campaigns

Conventional wisdom suggests that voters perform better the more they know about issues (see Gaines et al., 2007). In itself, however, factual knowledge about issues might not matter very much for political judgments. Even if we assume that citizens hold accurate factual beliefs about issues, they still must determine their significance and put them into context. This means people must interpret the facts they learn about political issues in order to rationalize their attitude. Does a 0.5% decrease in the unemployment rate indicate that national economic policies are working or not? Do an additional 1,000 refugees arriving in Switzerland represent a big, moderate, or small increase in immigration? “Only when people interpret facts can those facts influence their political opinions” (Gaines et al., 2007, p.957).

Without losing much conceptual pungency, one can perceive of these issue interpretations as ‘cognitive representations’ (Abelson, 1959), ‘evaluative beliefs’ (Ajzen and Fishbein, 1980; Chong and Druckman, 2007), ‘dimensions’ (Riker, 1996) or ‘considerations’ (Zaller, 1992). Given an issue, a certain set of interpretations constitutes an individual’s attitude. Attitude formation on a specific issue can thereby be understood as the result of a straightforward expectancy-value model (Ajzen and Fishbein, 1980). More precisely, the voter’s attitude on issue  $i$  derives from the sum of the relevant Interpretations  $I$  weighted by their importance  $W$ :

$$Attitude_i = \sum(I_i * W_i)$$

The empirical analysis for example will show that attitudes on the issue immigration can be formed from the five possible interpretations *asylum policy*, *integration*, the *refugee crisis*, *immigration in a narrower sense*, and *social and economic consequences*. An individual may understand immigration mainly as a matter of integra-

tion, but may put also weight on the refugee crisis and the handling of the social and economic consequences that accompany immigration. The expectancy-value model obviously is a stark idealization of attitude formation, especially when it comes to the questions usually asked in opinion surveys. When asked for an attitude on a specific issue, a person therefore may only be able to express vague considerations without clearly determined relative importance. However, I will discuss later on how the analysis of open answers with mixed-membership models help to overcome these restrictions.

In any case, the expectancy-value model's underlying assumptions enable a useful abstraction for studying the psychology of attitude formation, or 'frames in thought' (Chong and Druckman, 2007). After the 'frames in communication' on the side of the political elites and the media, 'frames in thought' mark the second stage of the predominant models in political communication (see Cacciatore, Scheufele and Iyengar (2016)). In the first stage, powerful senders – mainly political actors and the media – control the construction of the receivers' – the voters' – social reality by defining the type and number of interpretations on an issue (Slothuus and de Vreese, 2010). This media effects paradigm is increasingly challenged by studies that ascribe more agency to the receiver (e.g. Taber and Lodge, 2006; Hameleers and Vliegenthart, forthcoming). This study ties in with this understanding and argues the people's interpretations of issues are not only the results of framed communication, but also the outcome of their own meaning construction process.

If interpretations conciliate the facts people learn about specific issues with their attitudes, then different persons might end up with significantly different attitudes even if they are exposed to the same facts. In particular, the theory of motivated reasoning posits that party identifications as well as the perceived importance of issues can decisively guide attitude formation (Taber and Lodge, 2006; Gaines et al., 2007). Social democratic and conservative right voters, for example, could accurately perceive the same fact and still make different judgments about its meaning. They might selectively interpret in order to be able to justify their pre-dispositions.

Such processes of motivated reasoning are important for two reasons. First, they are essential because politics does not provide commonly agreed standards by which individuals can form their attitude. So citizens either can rely on cues, for example from their preferred party, or they have to put in the interpretative effort themselves. Second, motivated reasoning is particularly important because of its implications for the distribution of aggregate public opinion (Zaller, 1992). Previous experimental research has established that selective interpretations lead to a polarization of attitudes. Those holding strong prior attitudes on an issue, and those having strong

party identifications, become more extreme while reading about an issue because they quickly adopt consistent evidence and vigorously reject inconsistent evidence (Taber and Lodge, 2006; Redlawsk, 2001). Hence, the following first hypothesis can be formulated as follows:

**H1:** *Citizens have different interpretations of issues, some of which become more polarized in the course of the campaign.*

However, the theory of motivated reasoning is not suggesting that people are consciously deceiving themselves in order to preserve their prior attitudes (Taber and Lodge, 2006). On the contrary, a key finding of previous research is that people are largely unaware of the power of their priors. “We are not at liberty to conclude whatever we want to conclude simply because we want to. Even when we are motivated to arrive at a particular conclusion, we are also motivated to be rational” (Kunda, 1999, p. 224). Hence, most people try to remain unbiased or at least maintain the ‘illusion of objectivity’ (Pyszczynski and Greenberg, 1987).

Motivated reasoners make an effort to understand the issue at stake (Taber and Lodge, 2006). It can therefore be safely assumed that their party preferences are strengthened as well during the formation of their attitudes. If their prevalent interpretation of economic policy making is macro-economic performance – in contrast to, for example, individual well-being –, liberal parties will benefit from their vote. The second hypothesis therefore posits the following:

**H2:** *Polarizing interpretations are systematically linked to electoral choices.*

Understanding attitude formation requires acknowledging that people are selective information processors. In the meanwhile predominant model of motivated reasoning it is parties that facilitate the application of new information on the forming of attitudes (e.g. Taber and Lodge, 2006; Gaines et al., 2007; Slothuus and de Vreese, 2010; Petersen et al., 2013; Leeper and Slothuus, 2014). Strong partisans invest a lot of effort to corroborate their existing attitudes “by seeking out confirming evidence, counterarguing information that does not fit their preexisting conceptions, and attributing more strength to arguments that match their opinions (Gaines et al., 2007). Hence, the sophistication and feelings gained from a party identification, renders it unlikely that motivated reasoners remain “fair-minded” (Taber and Lodge, 2006, p. 767).

Party sponsorship is the most cited influence on issue attitudes, but may not be the most important, let alone the only one. Bullock (2011) shows that most

experimental studies only find overwhelming effects of party cues because they only provide very sparse policy information to respondents. More balanced experiments and observational studies, in contrast, indicate that policy information still has strong influence on attitudes, even when voters are pitched by party cues Boudreau and MacKenzie (2014); Colombo and Kriesi (2016). Most of the time These latter authors argue that most of the time people do not have much information on, nor interest in, specific policies. But in situations where they are provided with detailed information and policy-related arguments, people do take these arguments seriously and use them to form their opinion. Hence, substantial information on issues can be expected to be prone to motivated reasoning as much as information on political parties. Accordingly, the last two hypotheses can be formulated as follows:

*Citizens are more likely using polarized interpretations...*

**H3:** *...if they are more intensely exposed to their preferred party.*

**H4:** *...if they more intensely expose themselves to information about the issue at stake.*

Motivated reasoners, however, do not update their attitudes in a vacuum (Sniderman, 2000). First and foremost, they need political information sources to apply their predispositions to the forming of issue attitudes and party preferences (Leeper and Slothuus, 2014). In today's established democracies, the intensity of mediated experiences has increased dramatically during the last decades, so it is mass media coverage to which motivated reasoners most likely turn (Kepplinger, 2007; Ström-bäck, 2008). This is why this study looks at the changes in issue interpretations conditional on how print and online news media cover issue and parties.

## Data and estimation

This study engages with three different data sets, which are integrated in one analysis. The most important data set are original transcripts of the open-ended answers to the two most important problem (MIP) questions in the rolling-cross section surveys of the Selects.<sup>2</sup> Without any further specification, respondents were asked what they belief are currently the two most important political problems in Switzerland. The freely given answers were first typewritten without any modification by the interviewers, before they were classified into a fix issue scheme. An analysis of these

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<sup>2</sup>I am grateful to Nicolas Pekari and Georg Lutz from Selects for making this data available and for helping with the preparations.

original answers therefore does not have to engage with aggregated and thus to a certain extent imperfect representations of the respondent's thoughts and feelings about an issue (Brewer and Gross, 2005). Issue interpretations can be analyzed without any loss of information. In the interpretation of the issue European integration as a problem of renegotiation, for example, we find statements such as “Keine Solo-Läufe mit Europa!”<sup>3</sup> and “Verständigung mit der EU auf die Bilateralen Verträge unter Wahrung der Selbstbestimmung”<sup>4</sup>. These statements essentially convey the same problem definition, but differ in several nuances such as the detailedness and emotionality. There are enough open-end answers for the four most salient issues in the federal elections of 2015, immigration, welfare, economy and European integration. Table 1 presents the number answers for the most and second most important problem by issue:

Table 1: *Open-ended answers available for the analysis.*

| <b>Issue</b>         | <b>No. answers</b> |
|----------------------|--------------------|
| Immigration          | 10,209             |
| Welfare              | 3563               |
| Economy              | 3357               |
| European integration | 3073               |

The second data set integrated into the analysis are the Selects 2015 RCS surveys. The open-ended answers were matched with the regular survey data using the respondents' identifiers. This made all indicators of the regular Selects election study available for the covariates in the STM (see below) as well as the matching of the individual-level data with the Selects Media Analysis 2015 (Wüest et al., 2016). This third data set, among other indicators, comprises the salience of issues and parties in the coverage of 92 media outlets during the election campaign (see Table for an overview). The outlets thereby range from tabloids, quality newspapers, local and national press titles to Sunday papers. The online sample additionally contains news portals such as Swissinfo or the website of the public broadcaster (srf.ch). Since respondents in the RCS were asked which newspaper and online. For the print media, only the sources indicated by 22 of the total of 4,736 respondents were not available in the media data. For the print media, the sources could not be matched for 178 respondents.

The media data are merged with the survey data using the issue classification by the Selects experts, the party the respondents identify with, the interview dates

<sup>3</sup>No solo run on Europe!

<sup>4</sup>Settlement on the bilateral treaties with the EU while ensuring autonomy.



and the answers on the items “Which (printed) newspaper did you read the most in the last days?” and “Which online-news site or online-newspaper did you visited the most in the last days?”. More precisely, for both the print and online news source preferred by a respondent in the week prior to every interview date, two salience indicators were added for both the issue indicated in the most important problem item as well as the favored party<sup>5</sup>. First, the relative prevalence of the issue and party in the preferred news source compared to their importance in all sources. Second, the relative prevalence of the issue and party in the preferred news source compared to their importance in the same source in the previous week. Since these indicators are highly skewed but contain negative as well as positive values (see overview over the indicators used as covariates in the appendix), cube roots (see Miles et al., 2013) are applied in order to normalize them for the STM estimations (see below).

Unlike survey and laboratory experiments, the following empirical analysis does not suffer from an artificial environment that may bias individual behavior or a potentially unrepresentative respondent pool (McDermott, 2002). Also, external validity should be high, since motivated reasoning is investigated using the real-world stimuli, i.e. the salience of issues and parties in the print and online media coverage that is most relevant for every respondent.

I identify the issue interpretations in the open-answers inductively with a structural topic model (Roberts, Stewart and Airoldi, 2016). The STM builds on well-established generative topic models, namely the correlated topic model (CTM) (Blei and Lafferty, 2007). Both the CTM and the STM are a mixed-membership models, meaning that they assume that each answer consists of a mixture of topics (Grimmer, 2013, p. 283-285). A consequence of the logistic-normal distribution underlying these models is that topic prevalencies always add up to 1 for each document. This features of a topic mixture and a relative importance for each topic in the MIP answers renders the STM to a valid implementation of the expectation-value model presented above. Moreover, it has already been shown in psychology that the inductively generated topics allow a valid examination of different interpretations of facts (see Tenenbaum et al., 2014).

Concretely, the STM is a hierarchical model in which a document’s prevalence of each topic is drawn from a logistic-normal linear distribution whose mean is a function of document covariates. Therefore, the STM’s major innovation is that the prior distribution of topics (prevalence) and words (contents) can be influenced

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<sup>5</sup>As long as it is on of the major seven Swiss parties: SVP = Swiss People’s Party, SPS = Social Democratic Party, FDP = The Liberals, CVP = Christian Democratic People’s Party, BDP = Conservative Democratic Party, GPD = Green Party and GLP = Green Liberal Party.

by covariates (Roberts et al., 2014). The substantively interesting covariates in the following analysis measure (H1) whether respondents identify with a party (yes/no) and whether they have a strong attitude on the issue under concern (strong in favor/against vs. rather in favor/against or undecided); (H2) which party respondents perceive to be the most competent to solve the issue at stake; (H3) the salience of the party the respondent most likely votes for in the preferred online and print media; and (H4) the salience of the issue under concern in the preferred online and print media.

The analysis includes several other covariates from the RCS as controls, namely: attention to the electoral contest indicated on a four point scale ranging from not at all attentive to very attentive; the importance of the issue at stake measured on a four point scale ranging from rather unimportant to extremely important; a binary indicator indicating whether the interview is conducted at the beginning, during or after the electoral contest; gender and age (simple and squared) of the respondents; and the respondents' highest level of education measured on a six point scale ranging from no to tertiary education.

The topic models are estimated using the `stm` package in R (Roberts, Stewart and Tingley, 2014). I initialize the models with the spectral algorithm, which is robust to changes in several CTM parameters and starting values (Roberts, Stewart and Tingley, 2017). To select the number of topics, I evaluated the semantic coherence (the similarity of all word pairs in the same topic) as well as the discrimination (the inverse similarity of all word pairs across topics) of the topics using `word2vec` (Mikolov et al., 2013; O'Callaghan et al., 2015). I evaluated 20 models for each issue (varying the number of topics from 5 to 25 and found that models with relatively few topics (5 to 6) performed better (see the analysis Table 5 in the appendix). After a qualitative evaluation of the most probable words and documents of the models' topics in this range, I selected the 5-topic model as the most useful for the issues immigration, European integration and economy. For welfare, I chose the 6-topic model. Since the open-ended answers mostly are short and sometimes rather unstructured texts, they are not only preprocessed with the standard procedures – removal of stopwords, numbers and punctuations, lowercase transformation and stemming –, but I also added bi- and tri-grams<sup>6</sup> in order to make the analysis more robust.

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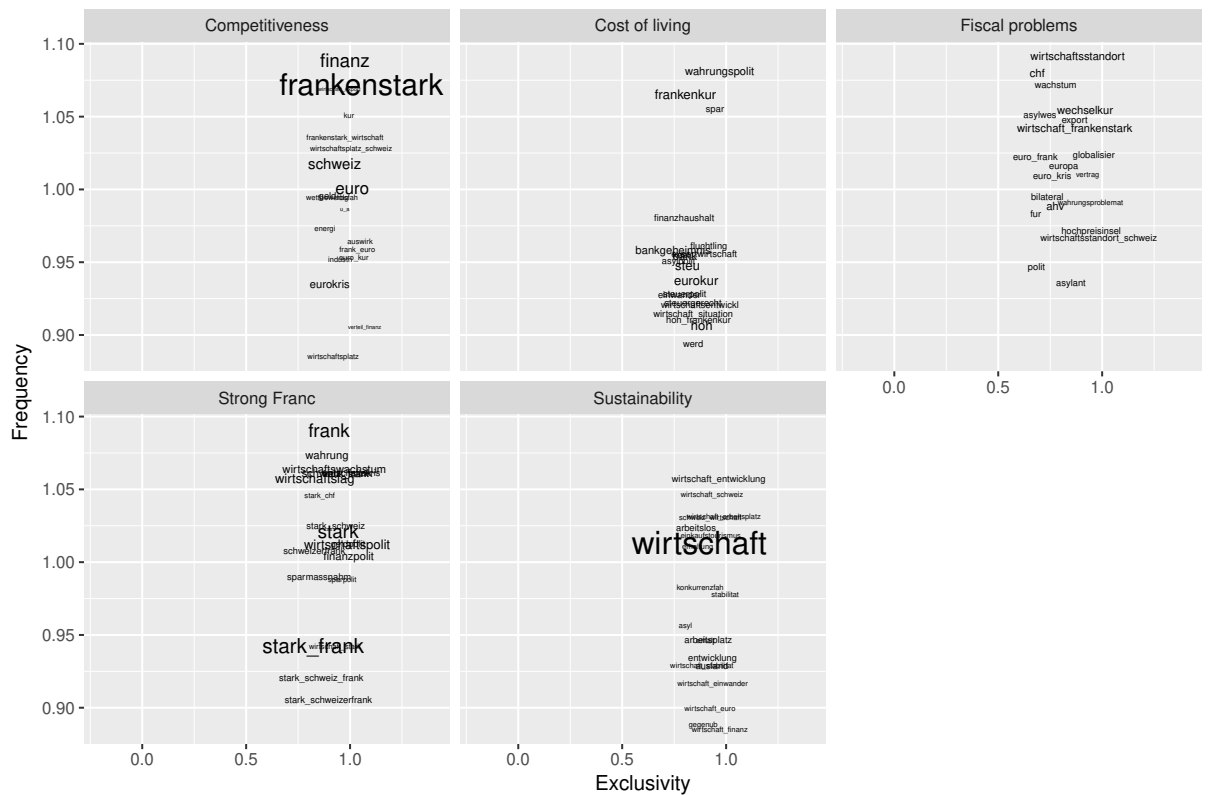
<sup>6</sup>Two- and three-fold combinations of adjacent words such as 'living\_costs' and 'rising\_living\_costs'

## Issue interpretations

The presentation of the results start with the discussion of the set of interpretations identified for each of the four issues. To this aim, Figures 1, 2, 3 and 4 show plots of the 20 most probable words for each interpretation. In each graph, the y-axis shows the frequency of a word for a specific interpretation. The y-axis indicates how exclusive a word is used in an interpretation compared to all other interpretations. The size of the texts, finally, indicate the probability that a word belongs to an interpretation.

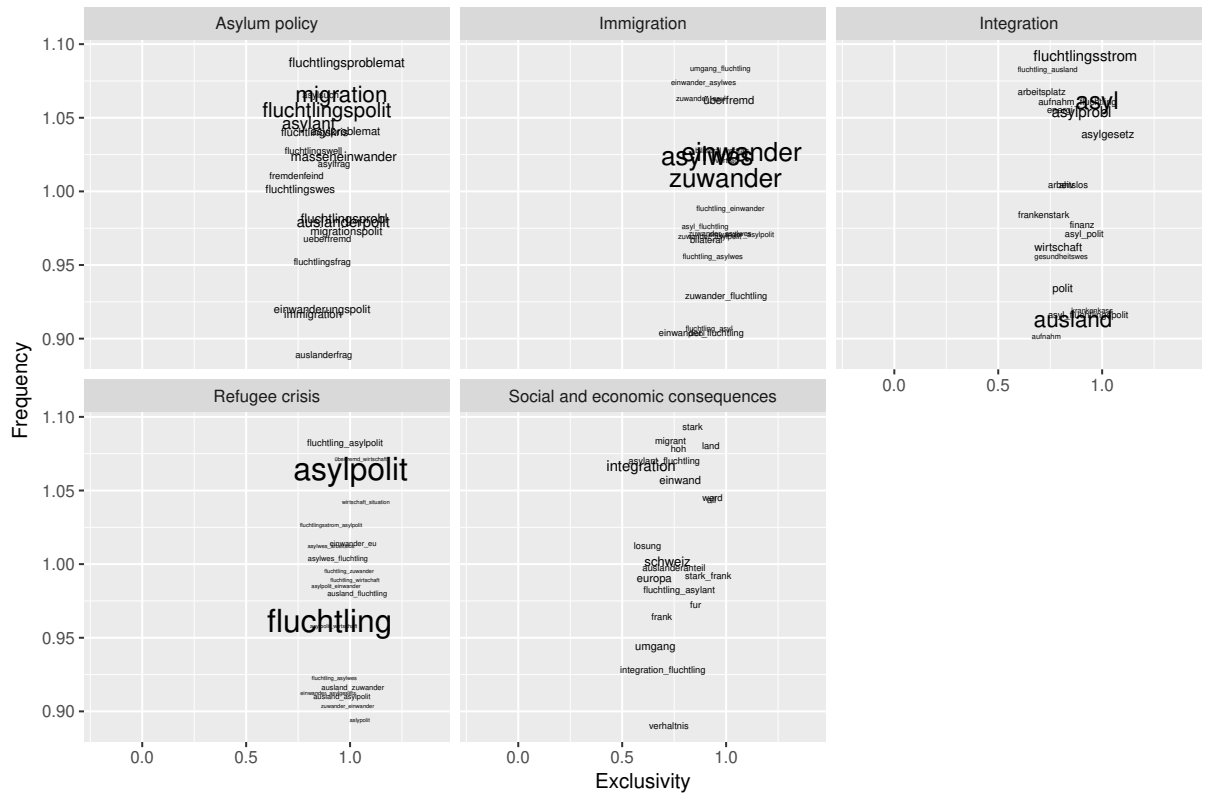
For the issue economy, the STM evaluation has indicated five interpretations. As Figure 1 shows, there are three interpretations related to the macro-economic performance of the country. One of these interpretations, labelled *competitiveness*, is more related to the place of the Swiss economy in Europe. Many most probably words point to the relationship of the Swiss Franc to the Euro and to the Swiss economy. An example out of the most probable open-ended survey answers simply states that the “Wirtschaftsplatz Schweiz” (i.e. the Swiss economy) is the most important problem in Switzerland. The other macro-economic interpretation of the issue economy may be named *sustainability*. Again, words connected to the competitiveness are important for this interpretation, but also words such as ‘Erholung’ (recovery), ‘Stabilität’ (stability) and ‘Arbeitsplatz’ that point to the sustainability. One example out of the highly probable answers is “Die Stärkung der Wirtschaft” (the strengthening of the economy). For the third interpretation, labelled as *strong Franc*, almost exclusively words related to the exchange rate of the Swiss currency are highlighted. An example answer relevant for this interpretation is “Der starke Franken und die damit verbundene Wirtschaftskrise” (the strong Franc and the related economic crisis). The last two interpretations are less well identifiable using the most probable word plots, but more so using the most relevant answers. For the interpretation *cost of living*, the answer “Immer wieder neue Gebühren und Abgaben” (ever more fees and transfers) is very representative. For the interpretation *fiscal problems*, answers such as “Finanzielle Verstrickungen auf allen Ebenen” (financial enmeshment on all levels) are characteristic.

Figure 1: Interpretations of economy.



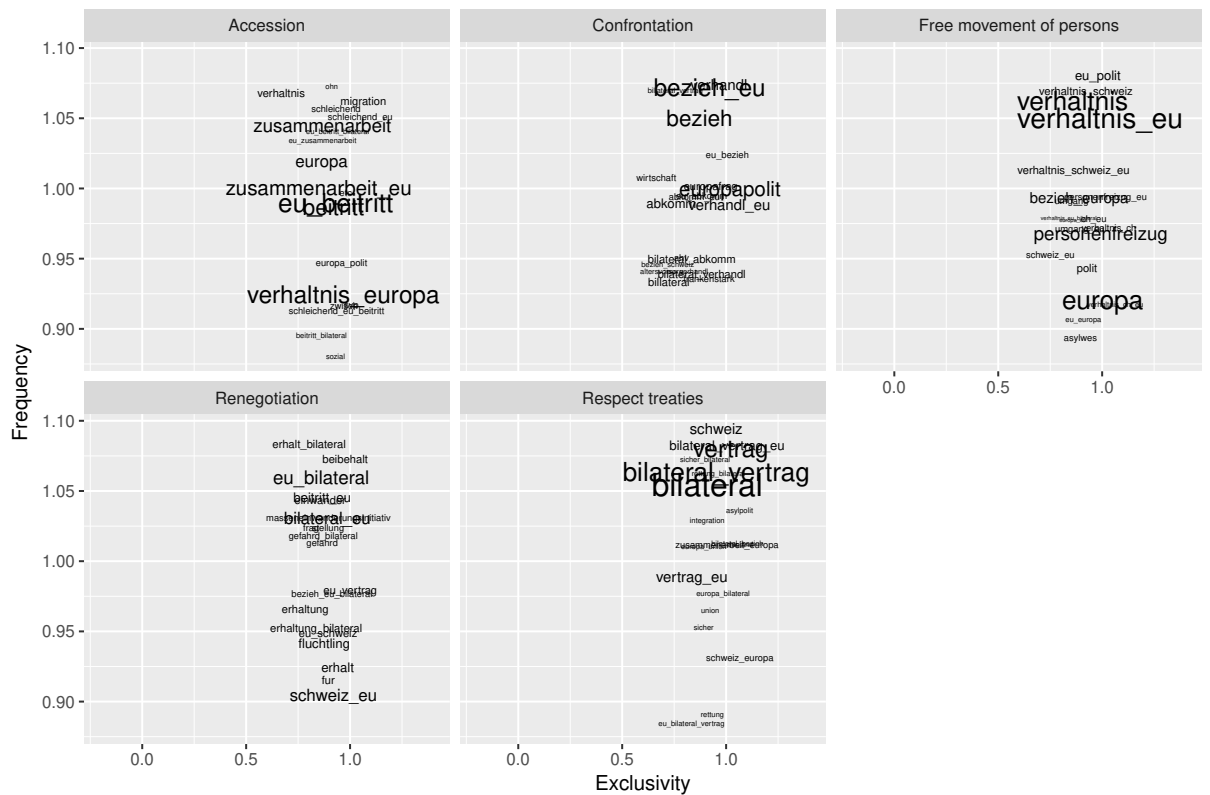
There are five interpretations for the issue immigration as well. *Asylum policy* contains a lot of words related to refugees, but with a distinctly connotation of how they are politicized (e.g. 'Fremdenfeindlichkeit' (xenophobia), 'Überfremdung' (foreign infiltration), 'Masseneinwanderung' (mass immigration), e.g. answers such as "Migration- und Flüchtlingspolitik" (Migration and refugee policy) were given in relation with this interpretation. The second interpretation has to do with problems related to *integration*. Relevant words are related to the jobs, the economy and health care. One answer with a high loading onto this interpretation is "Ausländer, die sich nicht integrieren" (foreigners who do not integrate themselves). The *refugee crisis* is a further, separate interpretation of the issue immigration. General problems related to immigration are important for the fourth interpretation which is labelled *immigration*. Answers such as "Die Zuwanderung und das Asylwesen" (immigration and asylum) are typical for this interpretation. Very similar to integration, there is an interpretation emphasizing the *social and economic consequences* of immigration. One of the most characteristic answers is the following "Unkontrolliert steigende Zuwanderung von Kriegs- und Wirtschaftsflüchtlingen [...] führt zu einer stark steigenden Arbeitslosigkeit und einer erheblich erhöhten Kriminalität." (The immigration of war and economic refugees is increasing uncontrollable, which leads

Figure 2: Interpretations of immigration.



to strongly increasing unemployment as well as criminality).

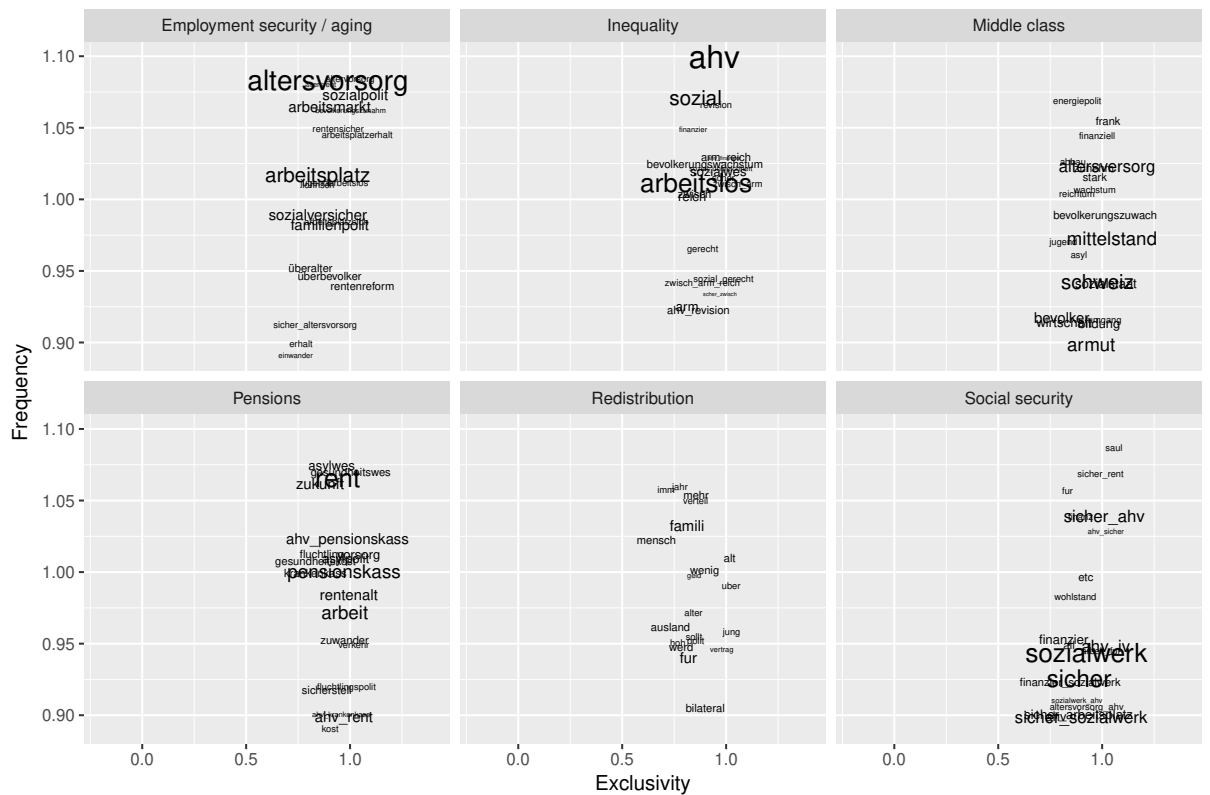
Figure 3: Interpretations of European integration.



As for the issue European integration, there is an interpretation of this issue as *free movement of persons*, which is coined by the word ‘Personenfreizügigkeit’ and answers such as “Das Verhältnis zur EU bzw. die Personenfreizügigkeit” (the relations with the EU and the free movement of persons). Then, for the interpretation as *EU accession*, a lot of answers are similar to this one: “Schleichender EU-Beitritt, Übernahme von EU-Recht” (lingering EU accession, take-over of EU laws). The interpretations named *confrontation* care about the Swiss-EU relations as well, but with a contentious undertone. This stands in contrast to the interpretation *respect for the treaties*, which emphasizes the bilateral treaties a lot. An characteristic answer is that “die Rettung der bilateralen Verträge” (the saving of the bilateral treaties) is the most important problem. Finally, the interpretation *renegotiation* highlights that Switzerland must find a way with the EU. Words such as ‘Erhalt’ (preservation), ‘Beziehungen’ (relations) and ‘gefährdet’ (endangered) point to the fact that this interpretations see the relations in danger and demand a renegotiation. An typical answer is “Einen Weg mit der EU finden” (find ways of maintaining the relations with the EU).

For welfare, there are six interpretations. For *inequality*, word combinations such

Figure 4: Welfare topics.



as 'arm\_reich' (poor\_rich) or 'sozial\_gerecht' (social\_just) are important. A representative answer for example is "Die Schere zwischen Armen und Reichen wird immer grösser" (the gap between the poor and the rich continuously widens). For the interpretation of welfare in terms of *employment security / aging*, words related to 'Altersvorsorge' (retirement provisions) and 'Arbeitsplatzzerhalt' (job retention) as well as the answer "Überalterung der Gesellschaft und Arbeitsplatzsicherheit" (aging of the population and job security) are typical. Words such as 'Pensionskasse' (retirement funds) and answers such as "Die Zukunft der beruflichen Vorsorge" (the future of pension funds) for the interpretation of welfare as a problem of *pensions*. Further, the interpretation *social security* is coined by words related to social insurances. The interpretation *middle class* consists of answers like "Chancengleichheit, Bildungszugänge ermöglichen Armut bekämpfen etc." (equal opportunities, access to education and poverty reduction). *Redistribution*, finally, highlights the "Die Verteilung von Einkommen und Vermögen" (the distribution of incomes and fortunes), as one of the most relevant answers concisely summarizes it.

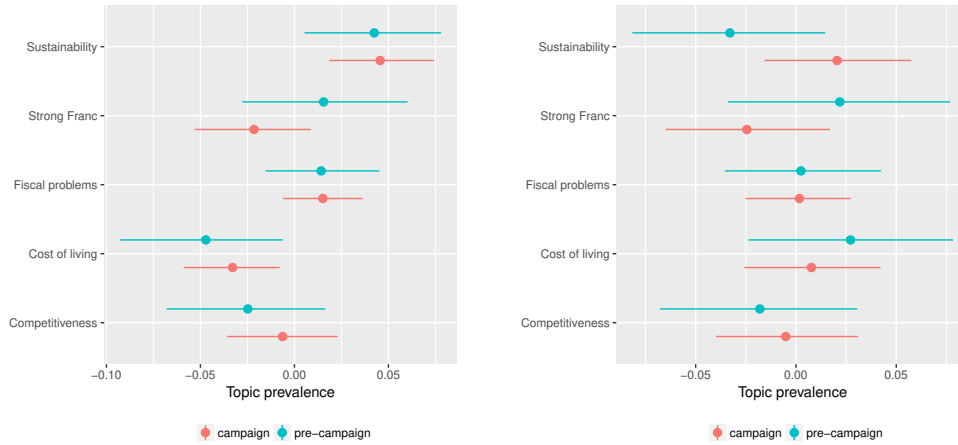
## Polarization

By exploring how the importance of the interpretations discussed above change during the election campaign, we can determine which interpretations contribute to a polarization of the electorate. The figures in Tables 2 and pol2 show changes in the prevalence of the interpretations between the forefront (July 2015) and during the campaign (August to October 2015) as a function of whether respondents have a strong initial attitude on the issue at stake (graphs on the left side) identify with a party or not (graphs on the right). More precisely, the interaction terms between issue attitude strength as well as party identification and the time of the interview (if pre- or during the campaign) were included into the STM estimations for this analysis.

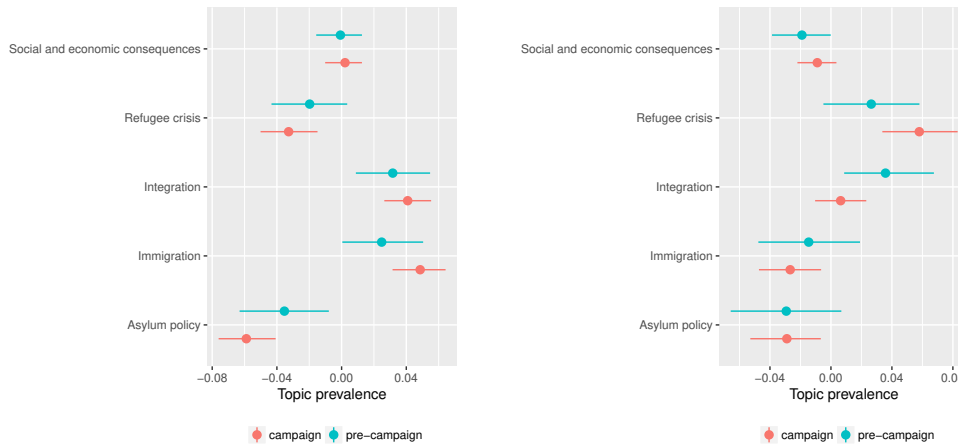


Table 2: *Issue attitude strength (left) and party identification (right) in the forefront and during the campaign.*

#### Interpretations for economy



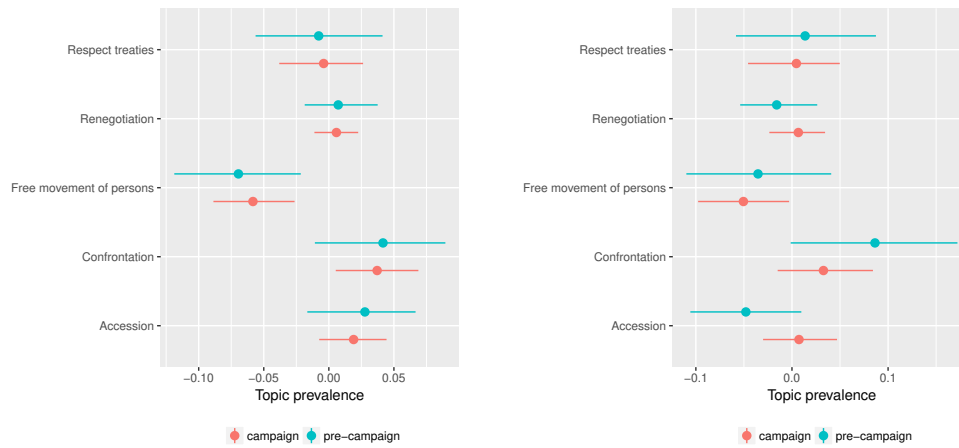
#### Interpretations for immigration



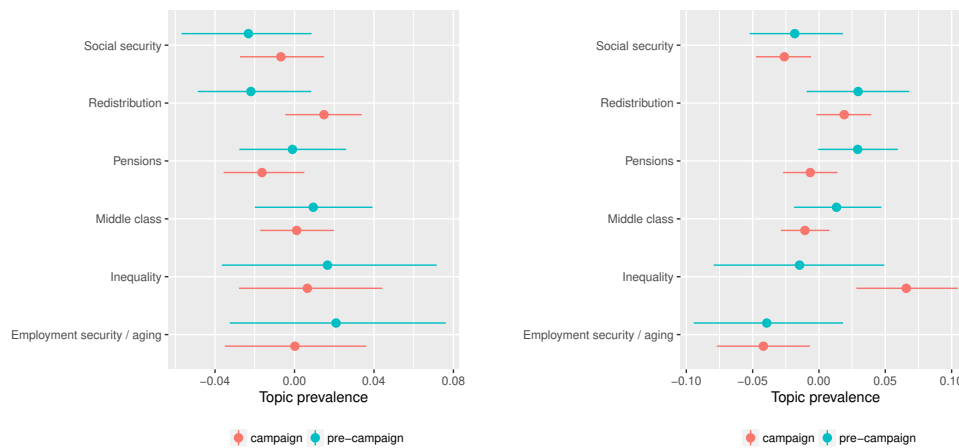
The importance of most interpretations does not significantly change over the course of the campaign, and the prevalence declines for only a few interpretations, namely for the interpretations *strong Franc*, *asylum policy* and *pensions*. Five interpretations are becoming more important for partisans and / or issue attached individuals. Voters identifying with a party are putting more emphasis on the interpretation of the economy issue as *sustainability* over the course of the campaign. The same voters are using the *refugee crisis* interpretation more often when it comes to the issue immigration. Voters are strongly engaged with immigration, in contrast, think more at the interpretation *immigration* during the campaign. As for European integration, it is the *EU accession* interpretation that becomes more important for

Table 3: *Issue attitude strength (left) and party identification (right) in the forefront and during the campaign.*

### Interpretations for European integration



### Interpretations for welfare

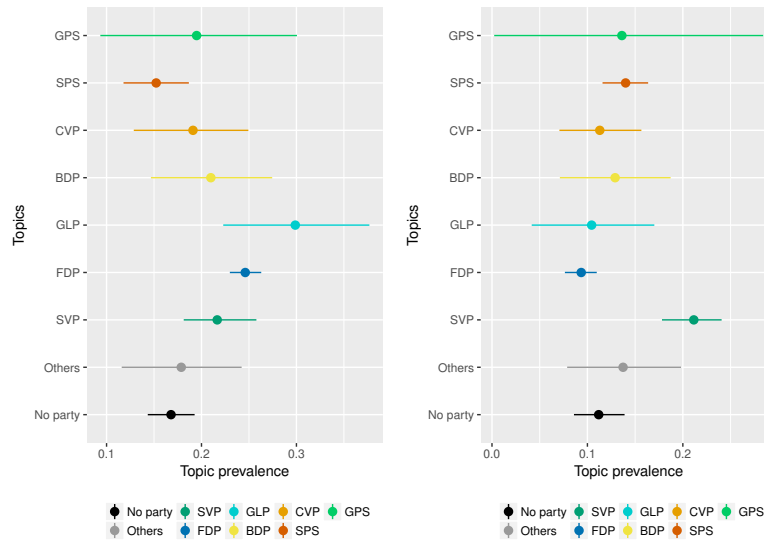


partisans. Finally, the interpretations of welfare as *redistribution* and *inequality* issue are increasing for voters with a strong issue attitude and party identification, respectively.

## Party preferences

In a next step, figures 5, 6 and 7 show which parties benefit from the polarizing interpretations identified in the previous visualizations. More precisely, the graphs show the fitted values for the interpretation prevalencies in dependence of the party

Figure 5: Most competent parties, economic sustainability and EU accession.



the respondents deem most competent to handle the problem they mention in the MIP answer. The correlations for the single party preferences can be compared to the respondents who indicated that no party is competent enough to deal with the problem under concern (indicated in black).

Unsurprisingly, it is above all the economically liberal parties (GLP and FDP) that seem to profit from the increase in the prevalence of economic *sustainability*. Also very much in line with what can be expected, the SVP clearly benefits if European integration is interpreted as a matter of *EU accession*. As far as immigration is concerned, the picture is more complex. All right parties clearly lose out if immigration is coined as a problem related to the *refugee crisis*. Left parties, in contrast, are perceived to be less competent when it comes to problems related to *immigration*. *Inequality* clearly is the interpretation owned by the Social Democrats (SPS). All other parties are perceived as less competent to tackle these problems. *redistribution*, however, is an interpretation that benefits no party in a significant way. The CVP, FDP, and astonishingly also the SPS are even significantly less in the voters' favor.

Figure 6: Most competent parties, immigration and refugee crisis.

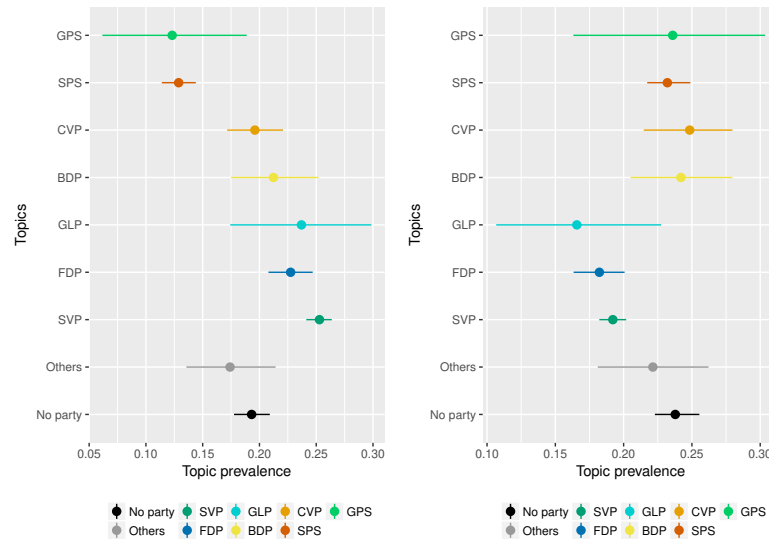
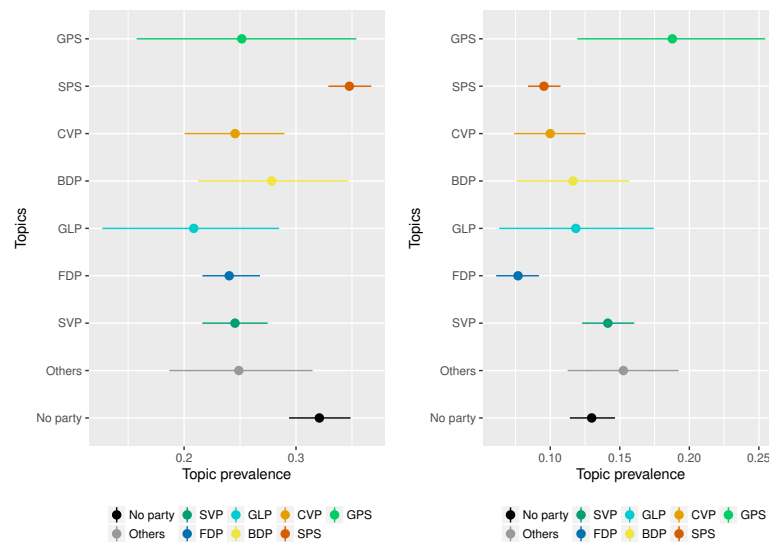


Figure 7: Most competent parties, inequality and redistribution.



## Attitude updating

In the last step of the analysis, first tentative results on whether voters update their attitude by emphasizing certain interpretations in lockstep with the salience of the issue at stake or their preferred party in their preferred media outlet. Only two of the polarizing interpretations presented above are shown – immigration and redistribution –, the results on the other interpretations are listed in the appendix. The graphs show the prevalence of an interpretation dependent on the media emphasis of parties and issues as well as time of the interview (pre-campaign and campaign). In every figure, the graphs in the first row show the influence of consuming information about the issue in online media, while the second row indicates the same for print media. In the third and fourth row, the influence of party salience in online and print media, respectively, are presented. For every row, the left graph shows issue or party salience in a media outlet compared to all other media, while the right graph presents issue or party salience in a media outlet compared to the previous week of the same outlet.

The immigration interpretation shows clear trends pointing to partisan motivated reasoning. Issue salience is not related to any significant changes in the topic prevalence. The salience of parties, in contrast, is related to substantial increases in the prevalence of immigration during the campaign. Hence, voters seem to increase their emphasis of the immigration interpretation if they disproportionately read about their preferred party. For redistribution, opposite patterns can be observed. The salience of substantial information on issues in the media mostly lets voters put more importance on this interpretation. The salience of party cues, however, in general even leads to lower emphasis of this interpretation.

Figure 8: *Updating for the interpretation immigration*

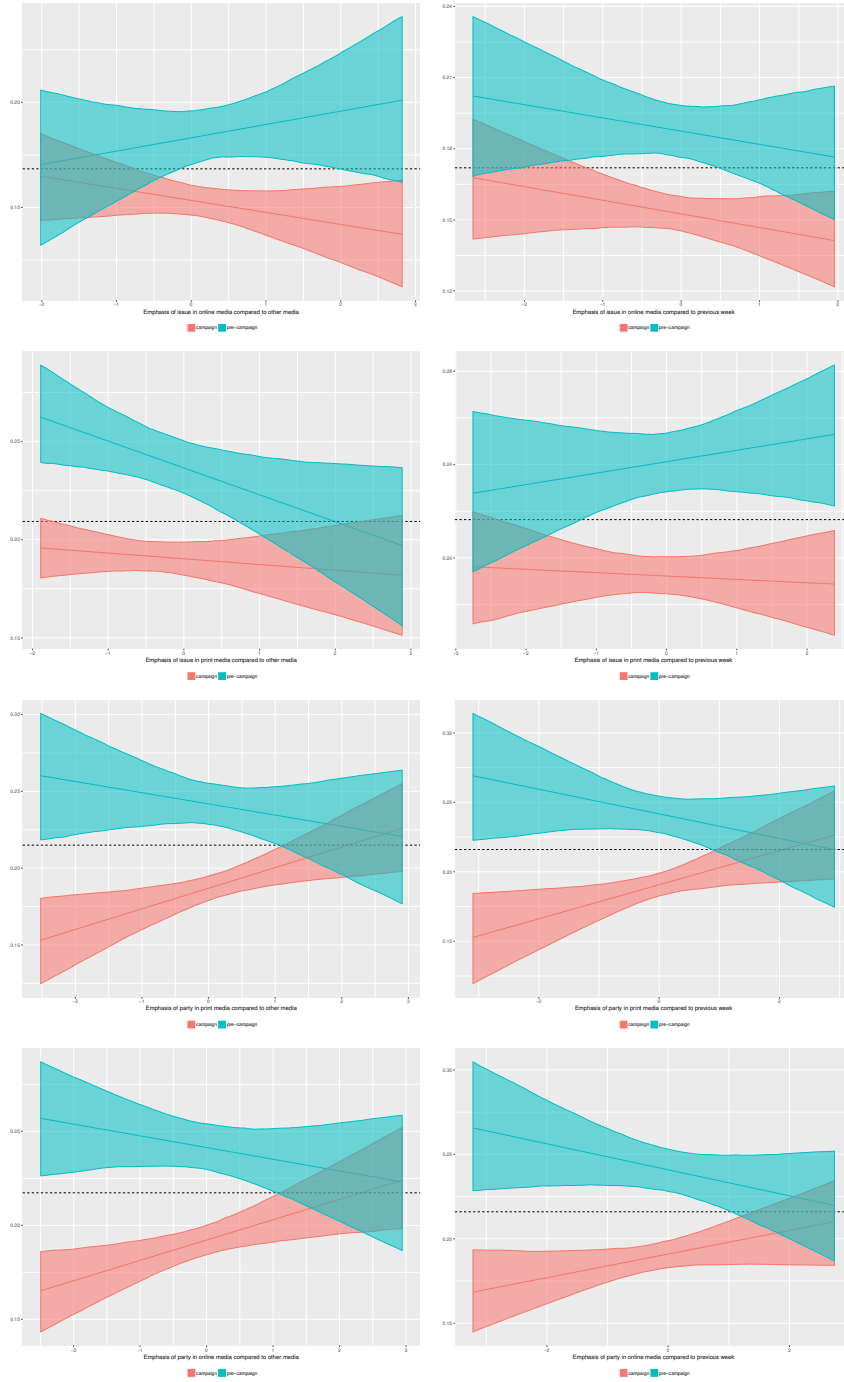
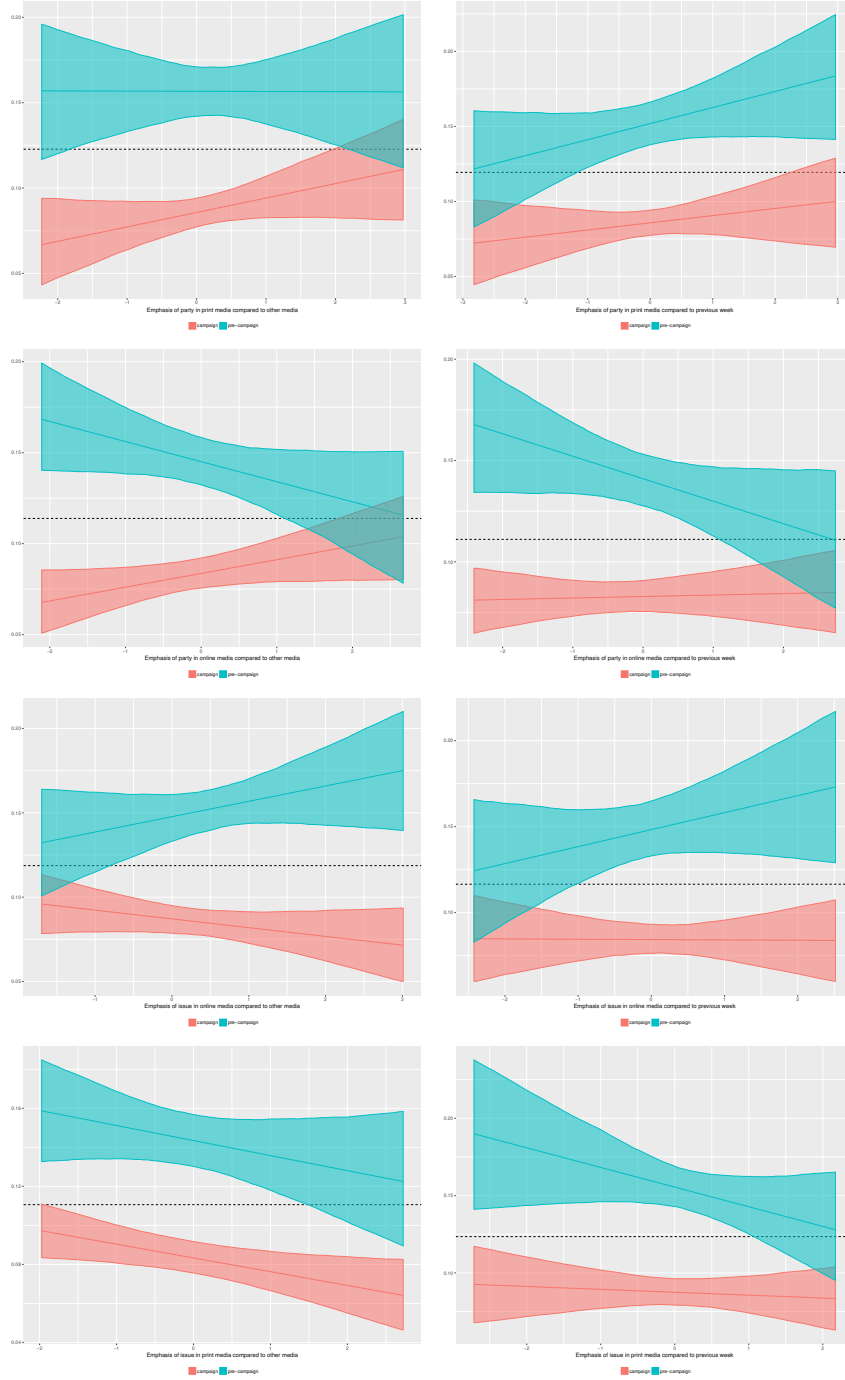


Figure 9: *Updating for the interpretation redistribution*



## Conclusion

This contribution could reveal that not only the issues in itself are important for the attitude formation in electoral campaigns, but rather their different interpretations. Some of the interpretations identified for the issues immigration, welfare, economy and European integration have led to a polarization of the electorate in the contest for the federal elections in 2015. This analysis has also provided evidence that, conditional on which interpretation is preferred by voters, specific parties benefit because people attribute them more competence to resolve the problems associated with the respective interpretation. Finally, both evidence for partisan and issue-specific motivated reasoning is found.

There are many possibilities to extend and adapt this contribution. Among the most important venues for improvement is the analysis of the answers in all three languages – and not only the ones in German –, possibly in on model using machine translated English texts. Then, further or other covariates can be included into the STM. The influence of the media, for example, can be measured in many different ways. Finally, the analysis at hand does not make full use of the rolling-cross section so that causal influences can be measured in an estimation similar to a panel regression.



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## Topic model coherence and discrimination

Table 4: *Print and online media available to measure media influence.*

| Print media                     |                 | Online media                        |                 |
|---------------------------------|-----------------|-------------------------------------|-----------------|
| Source                          | No. Respondents | Source                              | No. Respondents |
| 20 Minuten                      | 822             | 20 Minuten online                   | 647             |
| Tages Anzeiger                  | 502             | Tagesanzeiger online                | 311             |
| Neue Zürcher Zeitung (NZZ)      | 322             | Blick online                        | 286             |
| Neue Luzerner Zeitung           | 255             | Neue Zürcher Zeitung Online         | 271             |
| Berner Zeitung                  | 236             | Swiss Radio and Television online   | 79              |
| St. Galler Tagblatt             | 235             | Berner Zeitung newsnet              | 70              |
| Aargauer Tagblatt               | 199             | Basler Zeitung newsnet              | 55              |
| Der Bund                        | 142             | Bund newsnet                        | 46              |
| Basler Zeitung                  | 116             | Aargauer Zeitung online             | 37              |
| Die Südostschweiz               | 110             | Neue Luzerner Zeitung online        | 36              |
| Blick                           | 89              | St. Galler Tagblatt online          | 19              |
| Thurgauer Zeitung               | 58              | Blick am Abend online               | 16              |
| Basellandschaftliche Zeitung    | 55              | NZZ am Sonntag online               | 8               |
| Der Landbote                    | 55              | Basellandschaftliche Zeitung online | 7               |
| Solothurner Zeitung             | 55              | Tageswoche online                   | 7               |
| Blick am Abend                  | 51              | Finanz und Wirtschaft online        | 5               |
| Bieler Tagblatt                 | 44              | Sonntagszeitung online              | 4               |
| Zürichsee-Zeitung               | 41              | Bieler Tagblatt online              | 3               |
| Walliser Bote                   | 37              | Landbote online                     | 2               |
| NZZ am Sonntag                  | 34              | Oltner Tagblatt online              | 2               |
| Oltner Tagblatt                 | 33              | Thurgauer Zeitung online            | 2               |
| Zürcher Oberländer              | 26              | Bote der Urschweiz online           | 1               |
| Bote der Urschweiz              | 23              | 24 Heures newsnet                   | 1               |
| Freiburger Nachrichten          | 20              | Le Matin newsnet                    | 1               |
| Zürcher Unterländer             | 17              | Sonntagsblick online                | 1               |
| Zofinger Tagblatt               | 17              | Südostschweiz online                | 1               |
| Sonntagszeitung                 | 16              | Solothurner Zeitung online          | 1               |
| Bündner Tagblatt                | 14              | Swissinfo                           | 1               |
| Anzeiger von Uster              | 9               | Le Temps online                     | 1               |
| Werdenberger & Obertoggenburger | 9               | Wochenzeitung online                | 1               |
| Limmattaler Zeitung             | 8               | Zürcher Oberländer online           | 1               |
| La Liberté                      | 5               | Zürcher Unterländer online          | 1               |
| Sonntagsblick                   | 4               | Zürichsee-Zeitung online            | 1               |
| Weltwoche                       | 4               | Other                               | 178             |
| 20 Minutes                      | 4               | None                                | 2633            |
| WOZ (Wochenzeitung)             | 3               |                                     |                 |
| Le Matin                        | 2               |                                     |                 |
| Le Temps                        | 2               |                                     |                 |
| 20 Minuti                       | 2               |                                     |                 |
| 24 heures                       | 1               |                                     |                 |
| Le Journal du Jura              | 1               |                                     |                 |
| Le Nouvelliste                  | 1               |                                     |                 |
| Obersee Nachrichten             | 1               |                                     |                 |
| Schweiz am Sonntag              | 1               |                                     |                 |
| La Tribune de Genève            | 1               |                                     |                 |
| Other                           | 22              |                                     |                 |
| None                            | 1032            |                                     |                 |

# Topic model coherence and discrimination

Table 5: *Word2vec topic coherence and discrimination averages for varying numbers of topics.*

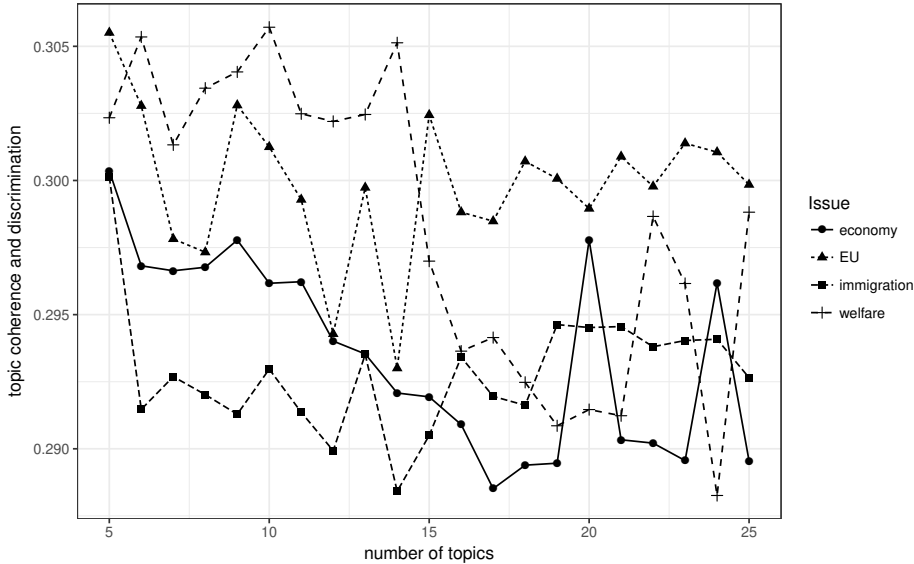


Figure 10: *Updating for the interpretation EU accession*

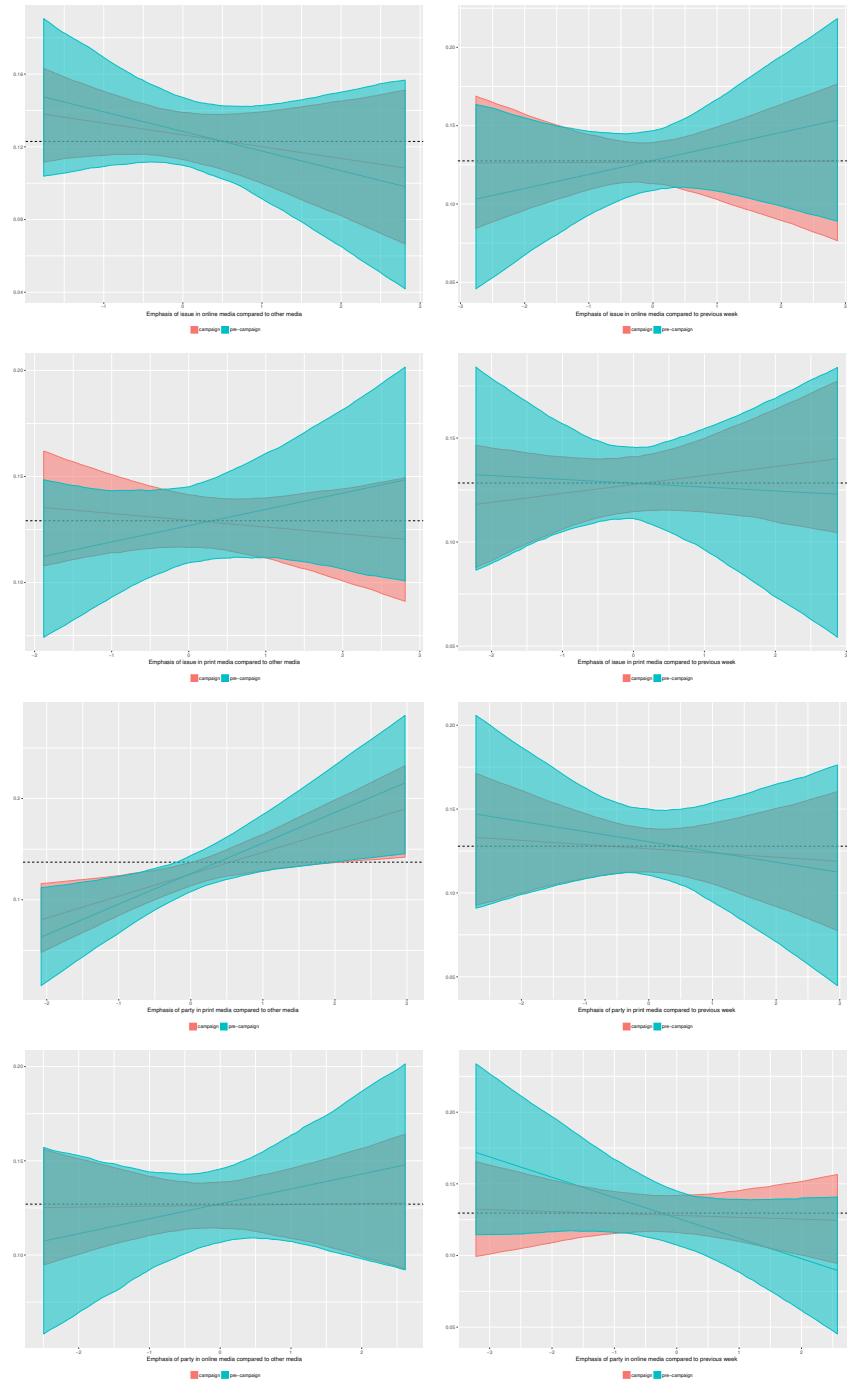


Figure 11: *Updating for the interpretation inequality*

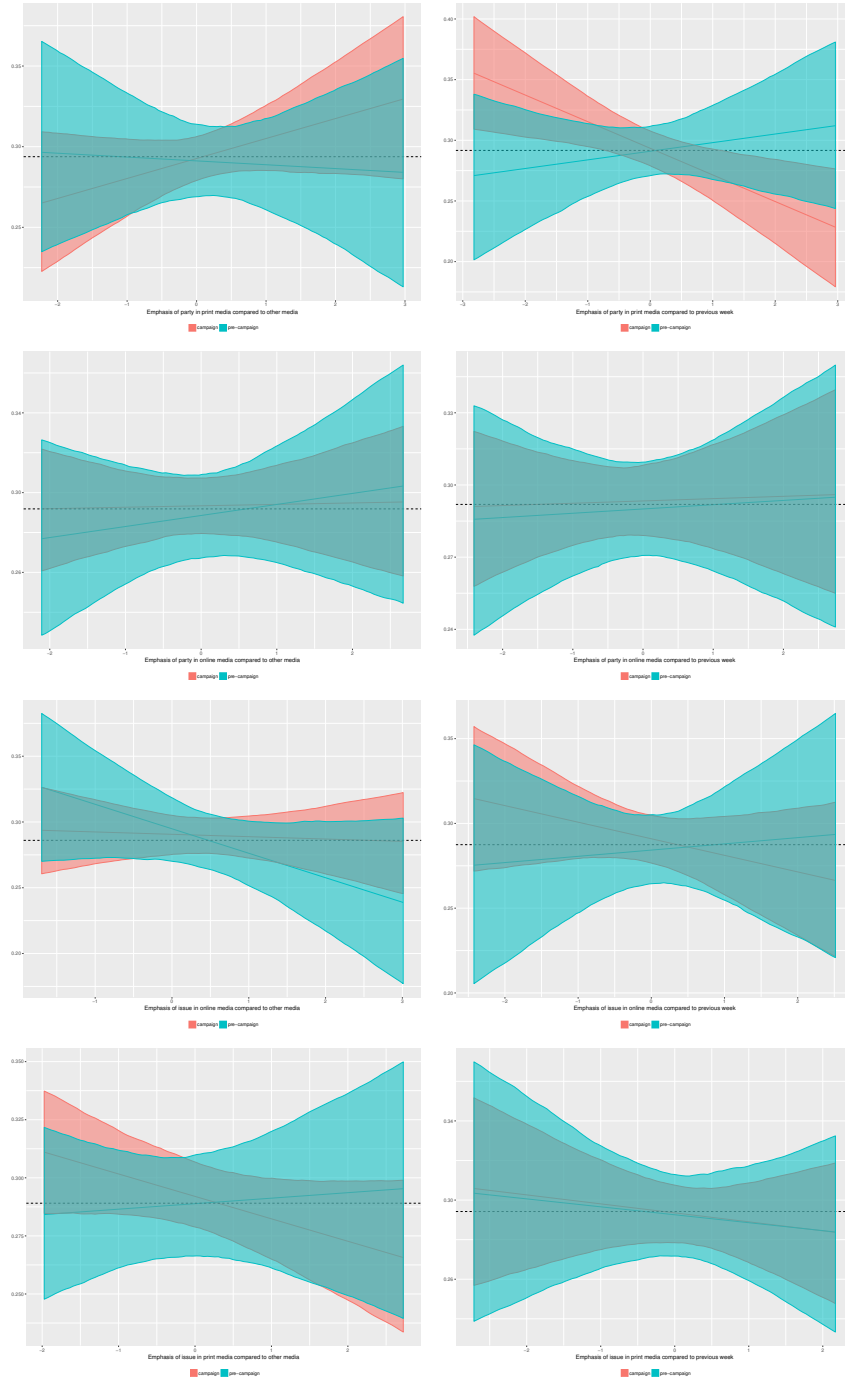


Figure 12: *Updating for the interpretation sustainability*

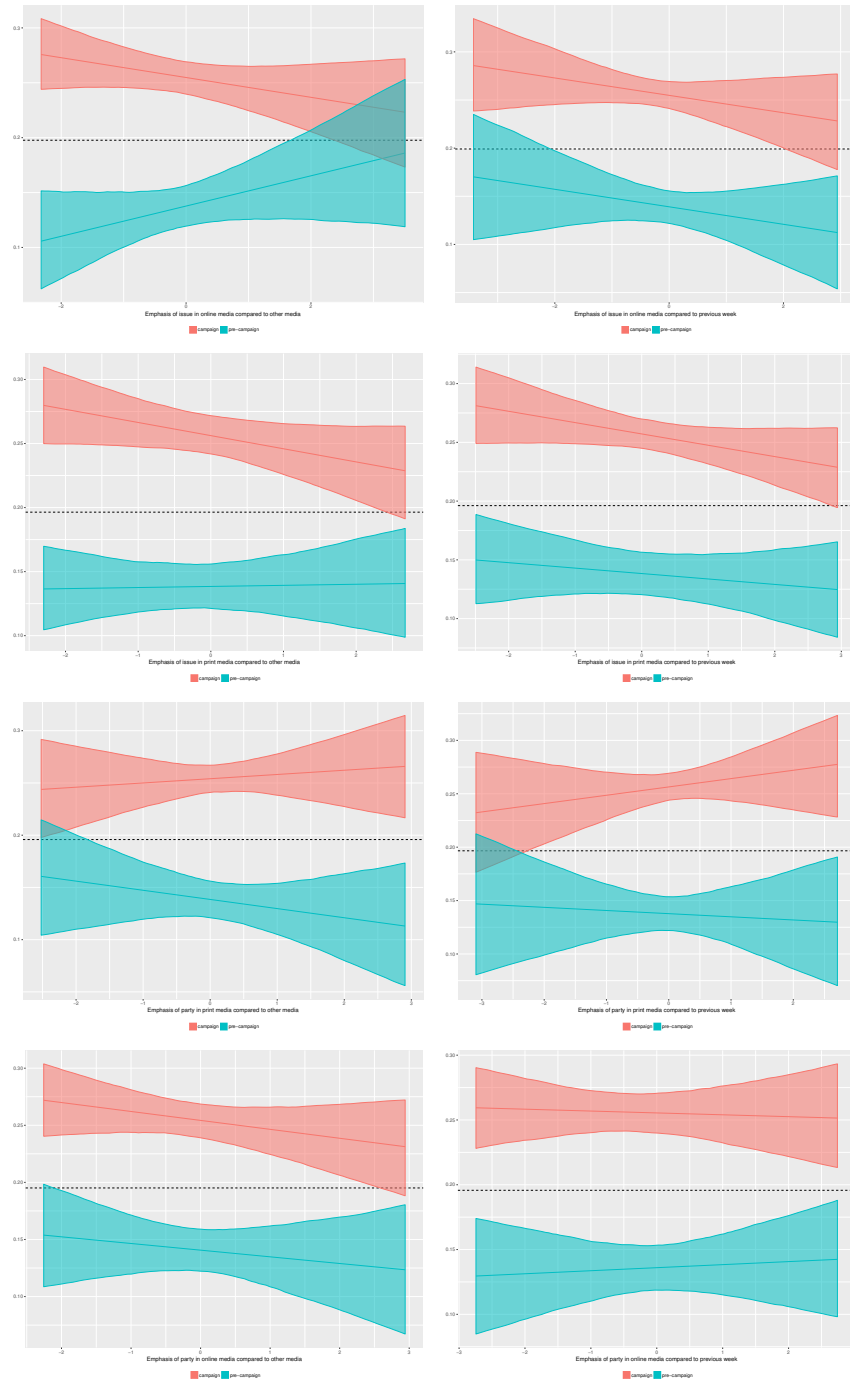




Figure 13: *Updating for the interpretation refugee crisis*

